

EXECUTIVE SUMMARY

CLIMATE ADAPTATION:
THE STATE OF PRACTICE IN U.S. COMMUNITIES

NOVEMBER 2016



THE KRESGE FOUNDATION



**The following Executive Summary is an excerpt from the larger publication
“Climate Adaptation: The State of Practice in U.S. Communities”**

Executive Summary

Communities in the U.S. are undertaking a rich array of climate adaptation actions that are making them more resilient to climate impacts. These actions provide models and lessons that can immediately help other communities better protect themselves from climate risks like flooding, heat waves, wildfires, and severe storms. In aggregate, these activities demonstrate that more U.S. communities are attempting to prepare for climate risks than previously thought (Melillo et al., 2014).

However, many of these promising practices are piecemeal and fail to comprehensively address climate change and its associated uncertainties. This suggests that, despite the many concrete vulnerability reductions achieved by our case study communities, much more work is needed for communities to holistically reduce their vulnerability to climate variability, extreme events, and climate change.

This research project was motivated by the immense challenges posed by climate change, the need for communities to adapt to those challenges, and the opportunity to learn from communities that have already begun adapting. Through this project, we identified many actions that U.S. communities have taken to prepare for and build resilience to climate variability, extreme events, and climate change.

Our research methodology included a review of selected technical and professional literature aimed at evaluating the state-of-the-practice of climate adaptation; interviews with 50 thought leaders from a variety of fields

relevant to community-based adaptation—including climate adaptation, natural hazards mitigation, planning, environmental justice, natural resource management, insurance, and community engagement and communications; and primary research that involved selecting, examining, and profiling 17 communities that have taken particular actions to attempt to tangibly reduce their vulnerability to climate variability, extreme events, and climate change.

Within this report, we document our findings, profiling a single activity or small subset of adaptation activities undertaken in each of the 17 communities, paying specific attention to findings that hold across multiple case study communities. While this analysis did not aim to comprehensively assess all of the adaptation activities unfolding in each of the case study communities, we believe results from this analysis provide useful information for community-based champions of adaptation action and adaptation professionals looking to design locally appropriate vulnerability reduction activities.

After two years of research on the state of community-based adaptation and the particular actions taken by these 17 communities, we found that communities have many of the tools needed to plan for and respond to climate change; they just need to get started.

Key Questions

During the course of the project, we examined four key questions.

1. What motivates communities to take adaptive action?

FINDINGS: Most adaptation actions draw upon, promote, and sustain multiple community values. Climate change was not typically the exclusive justification for community-based adaptation in the cases we studied. However, experiencing extreme climate events commonly initiated or accelerated adaptation efforts.

2. What are communities doing to adapt?

FINDINGS: Most of the profiled communities are attempting to tangibly reduce their vulnerability to climate variability, extreme events, and climate change. In a few cases, these communities are taking action to reduce exposure; more often their work is aimed at reducing sensitivity and building adaptive capacity.

3. How are communities implementing adaptation actions?

FINDINGS: Communities use diverse strategies to implement adaptation actions—from deploying conventional policy tools to mainstreaming adaptation into existing efforts to developing new decision-making processes. These strategies often capitalize on effective leadership and consciously build community support.

4. What are communities achieving through adaptation?

FINDINGS: The communities we examined are reducing their vulnerability to current climate impacts; a few are also explicitly reducing their vulnerability to future climate impacts. Sometimes these vulnerability

reductions are limited in temporal or spatial scope or address only a particular vulnerability type (e.g., only drought). Adaptation actions frequently go hand-in-hand with progress on other community priorities.

Our Conclusions

Based on the totality of work completed in support of this project, we draw the following conclusions:

1. Adaptation actions at the community level are reducing vulnerability to climate variability and extreme events, and possibly to climate change.
2. Addressing only climate variability and extreme events may constrain the effectiveness of long-term climate adaptation.
3. Communities can begin addressing climate change risks now.
4. Communities can overcome barriers to action, identify opportunities, and begin implementing adaptation measures.
5. Adaptation actions explicitly addressing climate change are in a formative stage.
6. Through our case study communities, we have identified components of a hypothetical, well-adapted community (see graphic below).
7. Community-based champions of adaptation action and adaptation professionals should use vulnerability reduction as a key baseline to assess and facilitate progress in adaptation.

Tactical Recommendations

Based on our research and analysis, we offer the following recommendations to community-based champions and adaptation professionals seeking to advance adaptation and vulnerability reduction within communities.

Start Now: Community development is an on-going process, climate vulnerability already exists, and climate change is increasing these vulnerabilities. Waiting does not guarantee more or better information, but it does

A HYPOTHETICAL, WELL-ADAPTED COMMUNITY

Over the course of this two-year project, we found an abundance of bold, successful community-based adaptation underway now and, in some cases, already tangibly reducing community vulnerability. However, as many of the leaders in our case study communities agree, even our profiled communities must do more to adapt to climate change.

We cannot say what a perfectly adapted community would look like. Nonetheless, if the types of actions that each of our case study communities took were combined into a single hypothetical community effort, it would arguably comprise an impressive climate change adaptation program (see below). We believe this hypothetical community can serve as an aspirational target for ambitious local champions who are working to build local resilience and protect their communities from the impacts of climate change.

Comprehensive, climate-change-informed planning processes, as seen in Chula Vista, California

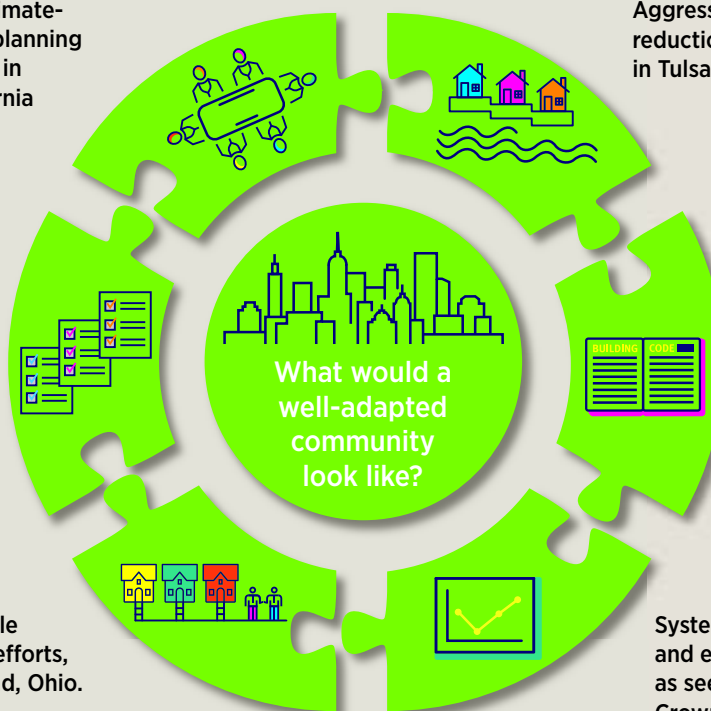
Aggressive exposure-reduction policies, as seen in Tulsa, Oklahoma

Mainstreaming climate considerations into existing decision-making processes, as seen in Seattle, Washington

Creative use of existing regulatory powers, as seen in Boston, Massachusetts

Neighborhood-scale capacity-building efforts, as seen in Cleveland, Ohio.

Systematic monitoring and evaluation processes, as seen in the Southwest Crown, Montana



waste valuable time as vulnerability reduction is a long-term process. Thus, communities can and should work now to reduce current and future risks to climate.

Look for Co-Benefits, Cross-Sector Leveraging, and Opportunities to Piggyback Climate Adaptation onto Other Salient Community Issues: Climate adaptation actions that also address longstanding problematic conditions—for example, decaying infrastructure or weakened ecosystems—can help win important allies, enhance community support, and facilitate progress.

Employ Commonly Used Policy Tools to Mainstream Adaptation: Many of the tools needed to reduce vulnerability—including standard measures such as ordinances, permits, bonds, utility fees, easements, zoning, and hazard mitigation planning—already exist and can be brought to bear to move adaptation forward.

Use Windows of Opportunity to Advance Climate Adaptation: Windows of opportunity, such as response to natural disasters or scheduled updates to municipal plans, present an opening to advance public discourse, galvanize community support, and facilitate progress.

Build Flexibility into Policies, Projects, and Programs: Given the uncertainties around the effects of climate change, municipal programs should be designed to evolve and adapt to changing conditions.

Consider the Needs and Capabilities of More-Vulnerable Populations: Climate adaptation actions should reflect and address the varying needs of different groups or populations, paying particular attention to populations that are most vulnerable, which are often the poorest, those already overburdened by pollution, those who lack economic opportunity, and individuals facing disenfranchisement and racism.

Consider Natural Systems in Adaptation: Climate change is often experienced through a community's interaction with natural systems, such as forests, rivers, coastlines, and floodplains. These natural systems can also play a vital role in reducing the impact of climate change on community infrastructure and resources.

Craft Outreach or Engagement Efforts, as Needed, to Build Community Support: Well-focused outreach campaigns enhance public buy-in for adaptation actions. Furthermore, engaging a community in the development of adaptation actions is a more time intensive, but potentially more productive means of building community buy-in and support.

Take Prudent Risks and Adjust Over Time: To successfully reduce risk to communities through adaptation requires innovation, experimentation, and some level of risk-taking. Adaptation policies, projects, and programs will likely need to be adjusted over time.

Consider Local Context When Determining Whether to Explicitly Frame Actions in Terms of “Climate Change”: Explicit articulation of climate change can constrain action in some settings, while galvanizing action in others; communities should recognize this reality and respond accordingly.

Provide Leadership: While leadership was an important aspect of making adaptation progress across all of the communities we profiled, that leadership came from many places. The most conventional sources of leadership came from a proactive mayor, city council, county commission, or senior municipal or departmental executive. But our case studies indicate that non-governmental organizations, grassroots activists, and non-senior municipal staff can also provide the leadership necessary to initiate and sustain climate adaptation actions.

Use Partnerships to Advance Adaptation: Working with other like-minded individuals and organizations can amplify the effectiveness of an adaptation action. Singular actors often face limited capacity and financial resources.

We strongly encourage our readers to dive deeply into the full report to examine our findings, recommendations, and, in particular, the 17 case studies at the heart of the project. Each case study represents a piece of one community's path to climate adaptation—a path that can inspire ongoing, forward-thinking action and that can serve as a guiding example for other communities and adaptation professionals as they work to reduce climate vulnerability and advance the field of climate adaptation.